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ABSTRACT

This study examined what teachers' professional knowledge was about, how it was organized, and how it could be described. Researchers conducted semi-structured interviews with 29 elementary school teachers in Helsinki, Finland. The teachers were selected from a group who had supervised teacher trainees in their own classrooms. Data analysis indicated that the teachers focused on three themes: their teaching, their students, and themselves as teachers. The issues were interdependent rather than separate, and teachers tended to discuss them simultaneously. Teachers perceived their teaching activities in relation to their students' studying activities. The place and limits of the professional self were difficult to define, though the concept of self and professional self overlapped. A second analysis of the data resulted in a reconstruction of three levels of teachers' knowledge. On the first level, teachers mainly described practical activities of their teaching, their students' studying, and student behavior. On the second level, teachers explained actions examined on the first level, offering good reasons for doing things the way that they did them. On the third level, teachers justified both their practical actions and their explanations. (Contains 61 references.) (SM)

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Teachers' Pedagogical Mind Set -
a rhetorical framework to interpret and understand teachers' thinking

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Introduction

The 1990's has became an era of individual pedagogical action - at least in the Scandinavian countries. In Finland the general curricular frames have been abandoned to a great extent and now they are being replaced by local and school-centered curricular guidelines. Teachers are at the center of this educational enterprise: it is their professional task, both individually and collectively (as a school community), to shape the school-centered curricula according to their best professional understanding and capability. The duty is a challenging one because it covers the totality of the educational processes from classroom practices to general educational objectives and to the special characteristics the schools are aiming at.

The change taking place in the teaching profession can be viewed as a two-fold transformation. The first one means the shift of administrative power from the general and bureaucratic (macro) level to the practical and local school level. This change taking place in educational policy coincides with the second transformation in which the teacher's professional role is changing from implementor of general curricular guidelines to the inventor of more personal and situation-specific approaches in teaching. Together these two transformations mean the empowerment of teachers in the sense that from now on teachers are more responsible for the totality of the instructional process taking place in schools.

The situation can be seen as a sort of testing ground for teachers' pedagogical capabilities to cope with professional issues on both the practical and intellectual level at the same time, and at the same place, on the school level. Teachers are becoming active curriculum makers instead of passive curriculum users (Clandinin & Connelly, 1992).

The situation can be described as contextual and integrated. The situation is contextual in the sense that teachers work in their schools and classroom settings where changes are taking place. The situation is integrated in the sense that teachers both factually and now also officially have to take care and consideration of the totality of the instructional process they intend to perform.

This study aims to determine and understand
1) what teachers' professional knowledge is about,
2) how it is organized, and
3) how it can be described.

Teacher - the maker of many

Teaching is usually associated with practical activity - and practical problems. Teaching is what teachers do when they are working. This is manifested by both teachers themselves and by many educational researchers. If we ask teachers to tell us about their work they usually describe very carefully what they have done or are planning to do in their classrooms. Teachers seldom speak about e.g. justifications of their reported actions or go behind the action level. Brown & McIntyre (1993) focused their study on the practical perspective of teaching and found that teachers were quite unable to report to others the mental processes involved in their classroom practices. To quote the title of the book of Brown & McIntyre, it seems difficult, even for the teachers themselves, to "make sense of teaching".

A fair amount of educational research has been conducted to study teachers' classroom behavior. The whole behavioristic paradigm, or process-product paradigm, was inspired by the idea that 'effective and good teaching' can be reduced to external competencies that the teacher performs. Even in the modern cognitive-mediated paradigm now prevailing in the educational sciences this practical connotatation has survived:*the practice of teaching* (Jackson, 1986); *practical knowledge* (Elbaz 1983); and *personal practical knowledge* (Clandinin, 1986; Connelly, & Clandinin, 1985), just to mention a few, are examples of this keen interest in the practical activities of teaching and in teacher thinking, too.

Clark (1986, pp. 8-9) has traced the past development of teacher thinking research and has found three different conceptions of the teacher depending on what roles teachers play and what tasks they are expected to perform. 1) In the 1970's - the teacher as a *decision-maker*, in which the teacher's task was to diagnose the needs of students and to perform

appropriate teaching treatments. 2) In the early 1980' s -the teacher as a*sense-maker* , in which the teacher was seen as a reflective practitioner (Schön, 1983). 3) In the late 1980's - the teacher as a *constructivist* , who continually builds and elaborates his/her personal theory of teaching and education[1]. In short, Clark (1986, p. 9) points out that in teacher thinking research we have moved out from internally consistent and mechanical paradigms to more inconsistent, imperfect, and incomplete ways of thinking.

Side by side this conceptual development in research of teacher thinking the context of teaching has also been broadened. At first the 'unit of teacher thinking' was the school classroom where the teacher's constant decision-making was taking place in order to diagnose and help student learning. Gradually the notion of context has become more dynamic and collectively defined. The context was not seen as totally predetermined and fixed, instead it was based on mutually negotiated understanding between both parties involved, i.e. teachers and students. (Clark, 1986; Erickson, 1986)

During this decade the teacher's 'mind' in the moral and ethical sense has become of major interest (e.g. Goodlad *et al.*, 1990; van Manen, 1991; Sockett, 1993; Hansen, 1993; Oser, 1994). The concept of virtue has re-appeared in educational writings (MacIntyre, 1985; van Manen, 1994a), and it has its critics, too (Fenstermacher, 1994a). Perhaps this can be interpreted as a fourth phase of teacher conceptions in teacher thinking: the teacher is seen as a *meaning-maker* who aims, according to Sockett (1993, p. 13), at "shaping and influencing ... what people (students) become as persons through whatever it is that is taught (in schools)".

Reichenbach & Oser (1995) have criticized this conception of a teacher as a personal meaning-maker. According to them, the key question in this new approach is, what does it mean to transfer the theoretical framework of humanistic psychology to the context of

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[1] Bruner (1990, 4) has criticized the cognitive-constructivistic movement, especially in the field of psychology , that its emphasis has shifted "from 'meaning' to 'information', from the *construction* of meaning to the *processing* of information. He argues that computing has become the model of mind and due to this the concept of computability has replaced the concept of meaning in a broad cultural sense. According to Bruner (1990, 8), there exists a danger that there are fewer places for 'mind' in our cultural systems - 'mind' in the intentional states like believing, desiring, intending, and grasping a meaning.

education and schooling? They stress that education and schooling cannot be understood with the focus on the individuals only. To ignore the social and societal dimension of schooling and education means to naively assume that schools are places where teachers co-operate with other free individuals. In fact, the teacher-student relationship at school is quite the opposite: it is conflictory by its very nature. Reichenbach & Oser (1995) warn that seeing and defining teaching this way can be harmful both to teachers and especially to students: In the worst case teachers' "noble motives" can transform into "pedagogical kitsch" with good intentions but bad teaching practice.

From knowledge of teaching to teacher's knowledge - and back again

Anderson & Burns (1989, pp. 7-9) have presented a comprehensive definition about the concept of teaching according to which "teaching is an interpersonal, interactive activity, typically involving verbal communication, which is undertaken for the purpose of helping one or more students learn or change the ways which they can or will behave". From the definition we can extract at least two elements that are characteristic of teaching: 1) teaching is an interpersonal activity between the teacher and students, and 2) teaching is intentional by its very nature, i.e. both the teacher and students have some purpose or set of purposes in their minds for which teaching occurs.

These two domains, teachers' thought processes and teachers' actions, are also presented in the model of Clark & Peterson (1986, p. 257). According to them, the two domains differ in at least two important ways. First, the domains differ in the extent to which they are observable. Teachers' thought processes occur "inside teachers' heads" and are thus unobservable. In contrast, teachers' actions are seen by the eye. Second, the two domains present two different paradigmatic approaches to research on teaching. Teachers' classroom behavior was mainly studied by using the process-product approach in which teachers' classroom activities (processes) were connected to student achievements (products). In the domain of teachers' thought processes the basic problem was, and

still is, intentions and conceptions must be questioned, because we still have no access inside teachers' heads.

The relationship between the domains of teacher thinking and teacher action is usually seen as reciprocal (Clark & Peterson, 1986). Teacher' actions are to a great extent caused by their thought processes and respectively teachers' thoughts are affected by their practical activities and encounters with their students.

Due to this complementary nature of teaching it seems quite difficult, and perhaps useless, also, to argue which of the two comes first? Is it the practical activity of teaching over thinking of that activity, or vice versa? In this kind of argumentation we could be trapped in a vicious circle with no way out. Instead, perhaps we should ask if there is any priority between these two cardinal aspects of teaching.

Margaret Buchmann (1988, 1990)[2] speaks about two lives in teaching the active life and the contemplative life. The active life of teaching is that fast-flowing teaching situation where teachers' and students' interactions and decisions constantly take place. The contemplative life of teaching means the thinking of those educational goals that teachers are aiming at in their teaching. Without references to those aims and goals, teachers would not know what they are doing. Buchmann (1988) emphasizes that the active and the contemplative life in teaching cannot be distinguished, both are forms of teaching and they are complementary by their nature: it is possible for action to lead to contemplation and for contemplation to lead to action. The practice of teaching interacts with the practice of thinking of that teaching.

According to Buchmann (1988, 1990), in teaching the contemplative life precedes the active life and she stresses that thinking about teaching, i.e. teacher thinking, must be construed more broadly than practical decision-making in teaching situations. Buchmann (1990, p. 49) emhasizes that the practice of teaching requires "commitment to intangible ideas of excellence (general human virtues and the ideal goods particular to a practice) ... and practice cannot be defined by compiling lists of skills and other endowments of a technical kind in disjunction with an understanding of a commitment to ends". In sum, teachers' ideas and

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[2] In this argumentation Buchmann echoes the thoughts of St. Thomas Aquinas in *Summa Thoelogiaie* .

ideals of perfection in their profession are, at least in some sense, practical.

Kansanen (1993, p. 53) also emphasizes the purposive element in teaching. Purposiveness is a kind of prerequisite for teaching because a certain purpose is always rebuilt in teaching, guiding the process of teaching with all its minor parts and details. This purpose permeates the whole teaching process and it becomes specified through various practical activities. On the one hand, purpose gets its meaning through curriculum, on the other hand, this purpose becomes a part of the thinking of the participating persons, i.e. the teachers and students.

The teacher and the students have their own intentions and experiences that they bring into the interactive teaching process. So why concentrate only on teachers' intentions? Mainly there are two reasons for this: Firstly, even if teaching is an interpersonal activity between the teacher and students the relationships in this kind of interaction are not symmetrical between these two parties. During the teaching process it is the teacher who always has the responsibility to steer the process and the teacher has the kind of legitimated power and authority in his/her actions that the students do not have. Secondly, teaching takes place in the social context of the school institution that is ruled by many contradictory demands. This societal frame of reference brings many demands to the teaching process that can best be dealt with by the teacher - because of his/her legitimated and authorized position. On account of these two reasons the teaching process can not, nor it is allowed to, be symmetrical between the teacher and students. However, this does not deny that the teaching process between the teacher and students can be as democratic as possible within these conditions. (Kansanen 1993, p. 54)

In sum, the teacher's purposiveness can be seen as a main characteristic of teaching and this purposiveness is embedded in teacher-student interactions. Together these two domains seem to form an important part of teachers' knowledge.

Since the view of teachers as purely rational decision-makers is now almost abandoned, a number of studies have been conducted in order to develop a wider concept of teacher knowledge, including more than teachers' decisions and cognitions. This concept assumes that instead of using scientifically based knowledge teachers act more upon their personal experience-based knowledge and this knowledge, according to

Carlgren & Lindblad (1991, p. 511), "should be considered as wholes, organized in non-linear, dialectic way".

Carlgren & Lindblad (1991) argue that this wide concept of teacher knowledge has also changed the research object in the studies on teacher thinking. According to them, "in the beginning, the research object seemed to be teaching. The research aimed at examining the importance and meaning of teachers' thinking for teaching practice, the relation between thinking and acting. Gradually, however, there has been a displacement to questions concerning teachers' knowledge as such. The research object, therefore, seems to be teachers' knowledge rather than practice. (Carlgren & Lindblad, 1991, p. 511)

But how is this wide concept of teachers' knowledge related to the practice of teaching? In educational research the concept of practical reasoning (Audi, 1989)[3] and especially the practical arguments have been quite widely used (see e.g. Fenstermacher, 1986, 1987, 1992; Fenstermacher and Richardson, 1993; Morine-Dershimer, 1987, 1988; Vásques-Levy, 1993; Carlgren & Lindblad, 1991) Practical reasoning is "a conceptual framework in which a person's beliefs, desires, emotions ... and intentions interact in a reasoning process that leads to the conclusion to act" (Noel, 1993, p. 127). It is the active reasoning process required to bring intentionality into action. Practical reasoning is generally represented by practical argument undertaken by the individual and often in a form of practical syllogism[4].

Pendlebury (1990) has criticized the use of practical arguments in educational research on the grounds that they cannot capture the complexity of thought that informs the decisions and actions taken in a teaching situation. According to her, the situational appreciation is the crucial element in teaching - and in teacher thinking, too. Pendlebury contends that practical arguments are not an appropriate vehicle for examining teachers' thinking because practical arguments only apply to

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[3] The concept of practical reasoning stems from the work of Aristotle in his Nicomachean Ethics. Aristotle did use the concept that can be literally translated as 'practical reasoning'. (Audi 1989, 13) According to Dahl (1984, 4), the notion of practical reasoning comes from Aristotle's notion of *phronesis* , or practical wisdom, a uniquely practical form of knowledge.

[4] According to Fenstermacher (1992, 102), "as described by Aristotle, practical reasoning follows the form of syllogism, wherein the major premise describes the desired end, the minor premise specifies the means to that end, and the third premise marks the situation as one in which the major and minor premises apply, leading to a conclusion in a form of action."

what might be called technical means-end reasoning. Teaching is practical in quite a different way because in teaching means are not separate from ends. Pendlebury gives two reasons: First, the means used in teaching count as a partial or total realization of the ends. Second, the educational ends are not identifiable independently of its constituents. Pendlebury (1990) calls the type in reasoning in teaching constituents-to-end reasoning[5].

Buchmann (1988) emphasizes that presenting practical arguments without introducing the person who makes them is quite useless. Teachers work within the context of a social role (teacher) and within the institution (school) and their person is deeply rooted in these institutional constraints as e.g. Lortie (1975) has described.

Method and data analysis

The method used in this study is the semi-structured interview of 29 elementary school teachers in the capital area of Helsinki, Finland. The semi-structured nature of the interviews gave necessary structure while at the same time leaving space for the teachers to tell their own stories and narratives in their own words. When this happened the interviewer assumed the role of an active and accepting listener.

The teachers were chosen from a body of teachers that had supervised teacher trainees in their own classrooms for a few weeks. This selective procedure made it possible to obtain different kinds of teachers for the study[6].The interviews took 1.5-2 hours per teacher and they were conducted by the author. The interviews were tape-recorded and transcribed.

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[5] Pendlebury (1990) acknowledges that teaching is based on both means-to-end reasoning and on constituents-to-end reasoning and from these two the latter is primary. Pendlebury calls this broader view a neo-Aristotelian view of practical reason. In a neo-Aristotelian view, the practical arguments may be used to represent both means-to-end and constituents-to-end reasoning.

[6] Teachers have reported themselves to be "traditional", "progressive", favoring "alternative pedagogical approaches" and so on. This is because in various periods of teaching teacher trainees can choose the kind of pedagogical approach they want to practice.

In interviews teachers talked quite freely and enthusiastically with the interviewer. The data is rich and diverse and in many cases it resembles a sort of "authentic conversation" between the teacher and the researcher[7]. Gradually it became more evident that, in a certain sense, the data can also be interpreted as narrative interviews (see Cortazzi, 1993, pp. 55-58); and as teachers' stories (see Carter, 1987, 1993; Kelchtermans, 1993; Tappan & Brown 1989; Mattingly, 1989).

Narratives elicited from interviews are usually in the form of a summary, short and to the point (Cortazzi, 1993, p. 56). According to Elbaz (1990, p. 33), story telling is something implicit in teachers' knowledge. Teachers' knowledge in its own terms is ordered by story-format and it can best be understood in this way. In sum, after several data analyses the landscape of teachers' knowledge seemed increasingly storied. Bruner's (1985; 1986) narrative mode of knowing in which knowledge is seen as embodied and personally and socially constructed seemed more and more appropriate to the data.

Reading and interpreting interviews all over again implied two conclusions. First, the data was contextual in the sense that teachers' knowledge can not be properly understood without the particular and practical school context in which teachers are working. Second, the data can not be read without a close connection to the persons that the teachers are.

The analysis was a two-fold process according to the principles of the phenomenography of Marton (1981). Marton speaks about the first-order and the second-order perspectives. A first order perspective is focused on the current phenomenon - that is, how it will be explained in the best way. A second order perspective is focused on conceptions of this phenomenon - different ways of conceiving it and explaining it. From the first order perspective we try to describe and grasp the phenomenon, while in the second order perspective we strive to describe the conceptions as well as possible.

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[7] After each interview had been carried out notes were made on the place of the interview, and the respondent, in the sense how interested s/he was in the conversation themes. On the basis of these notes, the respondents were 'typed' into four groups. The attitude of the person interviewed towards the interviewer was also noted. These attitudes were categorized into three groups. A great majority of the respondents were 'typed' with positive features (i.e. "very interested" or "showed moderate interest") as well as positive attitudes ("cordial, warm, open" and "kind and polite in a usual way")

In the analysis made the concept of frame was important. According to Goffman (1974, p. 8), any event can be described in terms of a focus, a certain keynote to understanding the whole phenomenon. The basic aim of frame analysis is to try to describe "some of the basic frameworks of understanding available for making sense out of the events and try to analyze the special vulnerabilities to which these frames of reference are subject" (Goffman 1974, p. 10). Frame refers to those basic elements as the researcher is able to identify them. Frames are contextual and practical by nature. According to Goffman (ibid.), personal definitions of a situation (of what is going on) are built up in accordance with principles of organization which govern social events and our subjective involvement in them.

Barnes (1992) has developed the idea of frame in educational settings. According to him, teachers' professional frames can be considered by the ways in which teachers perceive and execute their professional tasks. The term 'frame' (Minsky, 1975; Schön, 1983; Wyer & Srull, 1984) refers to the clustered set of standard expectations through which teachers organize, not only their knowledge of the world, but also their behavior in it. Teachers' frames are not made up of information in teaching alone, they also incorporate a complex system of teachers' personal values and priorities. Barnes (1992, p. 18) emphasizes that frames are often based on teachers' deep-rooted personal assumptions about people and society in general and thus are closely related to teachers' belief systems[8].

In the first step of the analysis the frames describing teachers' articulated knowledge were identified and named. The second step of the analysis aims to bring more information concerning the structure of the framework.

The analyzing process in both steps was two-fold: First, the data was used to collect the evidence or at least some clues to the construction of the framework. Second, because the interview was open-ended, an analytical framework was developed to aid the analyzing process. The framework is both theoretically derived and empirically oriented. It is

[8] According to Barnes (1992, 16), "even though the conditions of the classroom and school play a large part in how teachers perceive their work, these do not determine what frames are available: a teacher's perceptions are as much his or hers as they are the creation of the situation".

theoretically derived in a sense that its basic concepts are construed from various studies of teachers' knowledge because of their presumed theoretical and practical importance. They appear in this study even though there are teachers in the data who do not fit them well. The framework is empirically-oriented in a sense that its purpose is to describe the variation that exists among this particular sample of teachers on certain matters.[9]

Results: Teachers' pedagogical mind set - a rhetorical framework

I The reconstruction of the rhetorical framework

Because the interviews were conducted in Finnish and have not been translated into English this section of the paper concentrates on presenting some general outlines from the data together with some theoretically derived notions that are used in order to construe the framework.

Basically teachers discussed three issues: 1) their teaching, 2) their students, and 3) themselves as teachers. The issues are not separate, instead teachers tend to discuss them in quite an integrative manner: in teachers' "voices" those three themes can often be heard simultaneously: when teachers are talking about their teaching, at the same time, they tell things about their students and about their own personality as a teacher. This indicates that in teachers' thinking these themes are at least partly patterned or organized[10]. Using these three categories the data could be re-read in a way that gave it more coherence and made it more explicit.

Teaching is mainly regarded from two aspects: from "what" and "how" aspects. "What" aspects usually relate to issues of content, what teachers are teaching. "How" aspects are linked with issues of methods, how teachers are teaching. From these two the latter ones dominate the scene. Teachers report what kinds of teaching methods they favor and for

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[9] Bussis et al. (1976) in their study "Beyond the Surface Curriculum" have used the same kind of analysis.

[10] Elbaz (1990, 19-25) uses the concept of tacit aspects of teacher knowledge and reports four of its characteristic features. According to her, the tacitness of teachers' knowledge means that 1) it is nonlinear, 2) it has a holistic and integrated quality, 3) it is organized at least some hidden way, and 4) it is impued with personal meaning.

what reasons. These statements are closely related to more personal views of teaching in general, i.e. what is good teaching. Some teachers think that good teaching is the achievement of a mastery of a certain area of knowledge or skill; others think that good teaching helps students learn to be independent and healthy individuals, still others may think that good teaching helps students learn so that their forms of thinking are broadened. Teachers' personal views about teaching seem to be related with their practical decisions about what is to be taught and especially how it will be taught.

Teachers cannot talk about their teaching without talking about their students - it is the students that they teach. It is the students who practically define teachers' teaching. According to teachers, their teaching is mainly defined by their students by two contextual means: 1) by students' studying, and 2) by student behavior. Both are closely related with teachers' teaching. These themes appear in each other and they seem to be nearly inseparable. What is of interest is that teachers speak quite rarely about student learning in the contextual sense. Instead, they talk explicitly and implicitly about students' *studying* and how their teaching is related to that activity. Teachers' reported views of student learning are quite often based on their personal preferences rather than their reported classroom evidence.

Teachers' talk of teaching and of students is closely related with themselves as teachers. Almost every theme of the data is covered by this personal tone but there are some focal points where this personal blueprint is stronger than elsewhere. The question of how the teacher describes him-/herself as a teacher seems of great importance here. These self-descriptions often are formulated in terms of general and professional ideals that the teacher wants to accomplish. The practical school context teachers are working puts severe pressures on these high hopes because teachers have to consider what can be done and in what way. Everything that is personally regarded as 'good' cannot be done and many things teachers personally dislike have to be done. This kind of constant *personal deliberation on professional issues* seems to be an inherent part of teachers' articulated knowledge.

The results of the first analysis are presented in Figure 1.

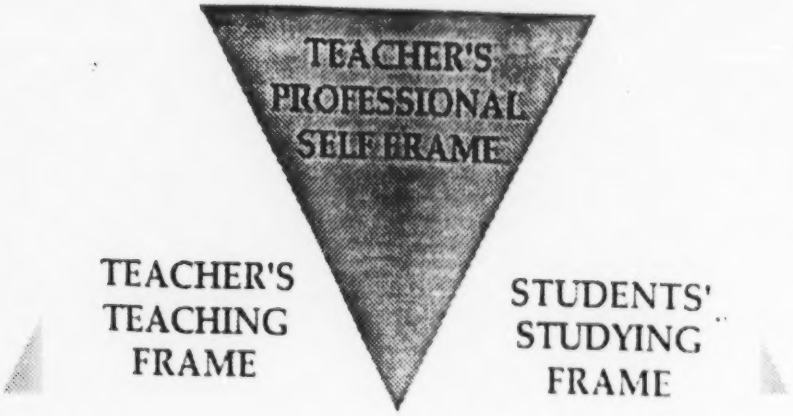

Figure 1. The rhetoric framework in teachers' thinking

In the first analysis the aim was to grasp the phenomenon examined in order for better practical and conceptual understanding. As mentioned, the analysis that produced the frames was based on both empirical data and theoretically derived notions of teachers' knowledge. Now, an attempt to explore some theoretically related ideas of the framework reconstructed will be made.

Teaching is the activity of teachers and studying is the activity of students. Both activities belong to each other's professional roles. By using the concepts of teaching and studying the instructional process can be understood as active on behalf of both sides (Kansanen, 1993). It is the active part of the teacher's intention to teach and the student's intention to study which are both reflected in teacher's thinking. These two are linked because it is the teacher's intention to teach which defines the student's situation for his/her studying (Pearson, 1989, p. 73). In this way teaching and studying as active and conscious elements are both pointing to the thing they aim, learning. Fenstermacher (1986, pp. 38-39) speaks about the 'ontological dependence' describing the relationship between teaching

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and learning in a way that the meaning of teaching is dependent on the possible existence of learning[11].

In this study the empirical evidence of teachers' articulated knowledge points to the interdependency of teaching and studying. Teachers tend to perceive their teaching activities in relation to the their students' studying activities. This is because the interacting network between the teacher and the students in teaching situations is so enormous that many teachers find it difficult to get a satisfying picture of student learning.

The place and the limits of the professional self[12] frame were difficult to define. The teacher as a person is commonly considered by many both within the profession and also outside it to be at the center of the educational process in general and in the classroom process in particular. Kelchtermans & Vandenberghe (1994) emphasize that it matters to teachers themselves, as well as to their students, who and what the teachers are. Nias (1989, pp. 202-203) argues that in the teaching occupation the self is of major importance because it cannot be separated from the craft. "The self not only influences the way people perceive concrete working conditions and requirements but also the way people act" (Kelctermans & Vandenberghe, 1994, p. 47).

It seems evident that the concepts of self and professional self overlap and their content is related to the context they are used. Hence, what kind of content do educational settings presuppose? Fenstermacher (1992, p. 100), using the concept of manner, argues that in the context of pedagogy there are no special "virtues specific to the school or to classroom teaching ... Rather, the manner of the teacher should be exemplary of good manner writ large". The point is, according to Fenstermacher, how issues of manner are related to the professional activities teachers perform.

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[11] Fenstermacher (1986) uses the analogy of teaching as "racing" and learning as "winning" in the sense that the concept of racing would be meaningless in the absence of a concept of winning.

[12] The concept of professional self comes from Kelchtermans (1993, 1994) who has used it in quite a different meaning when studying teachers' professional development.

II The levels of rhetorical framework

In the first analysis teachers' articulated knowledge was analyzed through three frames (teachers' teaching frame, students' studying frame, and professional self-frame) in order to describe and grasp the phenomenon as well as possible. This was done by using concepts that are both empirically related and theoretically derived. However, it became evident that the integrative framework as it was reconstructed could not capture the dynanic nature of teachers' knowledge that could be read out from the data.

In the second analysis the effort was made to seek out more unifying links within the reconstructed framework . The method used was the same as in the previous analyses. The empirical evidence gathered was used together with various theoretical approaches available. This dialectical process of inquiry resulted in the reconstruction of three levels in teachers' knowledge. The following section concentrates on presenting some general outlines from the empirical data together with a few theoretically derived notions that are used in order to present the levels of the rhetoric framework.

On the first level teachers mainly *describe practical activities* of their teaching, the studying of their students, and student behavior . Perhaps this is due to the fact that both teachers' and students' professional roles are closely tied with teaching and studying activities constantly examined in the school context. These activities can be of various forms but basically it seems to be a question of those two practices. The empirical evidence provides numerous cases where teachers' teaching activities (both "what" and "how" aspects) cannot be separated from particular student activities. Teachers' articulated knowledge reflects a keen interactivity between the teachers and the students and between the tasks both perform in the school context.

On the second level teachers *explain actions* examined on the first level. They offer 'good reasons' for doing things the way they do them. In the empirical evidence these reasons differ from teachers' teaching frame to students' studying frame. When it comes to teaching teachers do not pay much attention to the "what" aspects of teaching. They tend to regard the content knowledge of teaching as mostly valid. On the other hand, the methods teachers use ("how" aspects) are lively argued. The

data indicates that teachers do possess different views of knowledge and that these views are related to teachers' views about other educational and pedagogical issues. Students' methods of studying are an integral part of these different views of knowledge[13]. What methods are favored depends also on the contextual issues of classrooms. In sum, teachers seem to display personal preferences to the 'good reasons' they favor.

On the third level teachers *justify* their practical actions and their explanations, i.e. the 'good reasons', they give to their actions. The scene is mainly dominated by teachers' professional selfimage. The statements often concern issues of 'good teacher', 'good teaching', and 'good learning' and they are contextually bounded to the schools and classrooms teachers are working in. The data suggest that teachers tend to justify their actions to themselves by preferring personal views of teaching and student learning, and that these views are argued by contextually and personally bounded 'good reasons' It is worth noting that this preference of personal does not mean that teachers argue, nor act, solely on a personal basis. Whenever teachers use 'good reasons' based on educational sciences (and they do use them, too!) they usually tend to utilize them up in order to support their already adopted personal views.

[13] When teacher's view of knowledge is treated as external-to-the-knower, subject-centered process, the studying methods the teacher tends to favor emphasize on acquisition and mastery of knowledge delivered. When teacher's view of knowledge is regarded as internal , the studying methods the teacher tends to favor emphasize processes of student's self-development.

The results of the second analysis are presented in Figure 2.

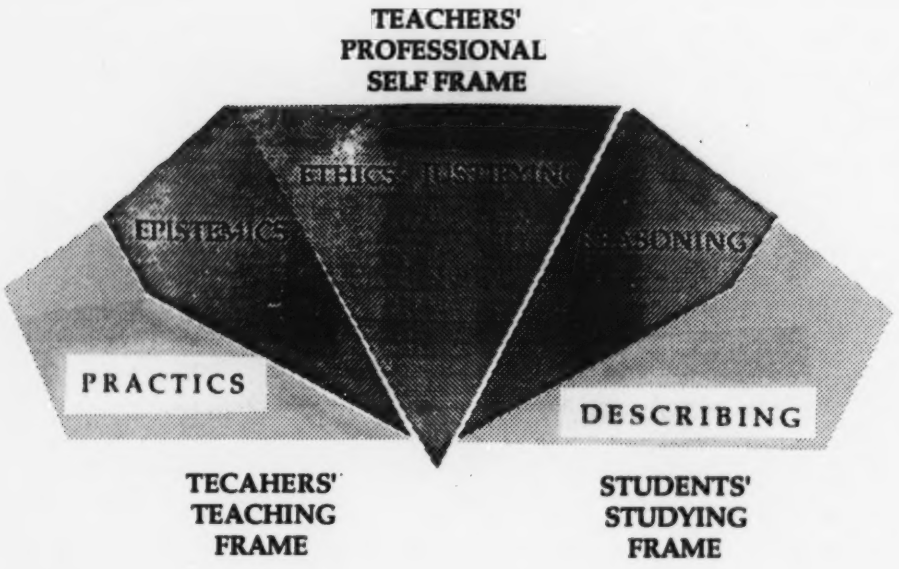

Figure 2. Levels of rhetorical framework in teachers' thinking

In the second analysis the aim was to get a conceptually more appropriate picture of the phenomenon. The analysis resulted in three levels of teachers' thinking (practics, epistemics, and ethics) which have two essential characters: 1) the levels are integrated to each other, and 2) the levels take place simultaneously in teachers' thinking. The analysis was based on both empirical data and some theoretically derived notions of teachers' knowledge. Next, an attempt to explore some theoretically related ideas concerning the three reconstructed levels will be made.

From the three concepts (practics, epistemics, and ethics) used the practical aspects of teachers' knowledge are perhaps best known. *Practics* is the level where teachers' thinking is directed at their action. This comes as no surprise because teachers' professional tasks are numerous and the majority of them are practical by nature. Just to mention two fundamental issues: First, in classrooms teachers are in a position where they just cannot stand back and wait - instead teachers have to act constantly. Second, teachers cannot escape their students but stand in relation to

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them[14]. Practics is the level of teachers' constant explicit and implicit decision-making in order to keep things going in the classrooms. This decision-making may be habituated and routinized but, according to teachers' articulated knowledge, it is connected to teachers' knowledge in general.

Teaching is usually associated with epistemological issues[15] due to the fact that teachers perceive their job, at least in part, as having to do with the transmission of knowledge of one sort or another. As the data suggested, teachers do have different views of knowledge and these views are mainly related to the teaching methods they use. Teachers' interest in knowledge is mainly associated with its transmission to students. Teachers are not typically concerned with the knowledge per se, rather than have students comprehended the content taught to them. Instead of knowledge issues teachers orientate to their students. Jackson (1986, p. 56) talks about teachers' "epistemological puzzlement" meaning this teachers' psychological orientation to others (students) in knowledge issues. In sum, teachers' epistemological interest seems to lie in the minds of their students. But what about their own minds?

Goldman (1986, p. 1) speaks about individual epistemology, or primary epistemology, due to its close connections to the individuals' knowing mind. According to him , individual epistemology is a sort of "architecture of human mind" (ibid.). Lyons (1990) has traced this architecture in teachers' knowledge and minds and, according to her, teachers' epistemological dimensions focus on three elements in their thinking: 1) teachers' stance towards the self as a knower, 2) teachers' stance towards students as knowers and learners, and 3) teachers' stance towards the content knowledge of teaching. Lyons emphasizes that these epistemological dimensions, implicitly or explicitly, exist in the intellectual and social relationships between teachers and students in their

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[14] van Manen (1994 b) stresses that the pedagogical relation between the teacher and the students is always on. According to van Manen (1994 b, 225) "life in classrooms is contingent, every moment is situation specific. And the immediacy and directness of the interactive pedagogical reality is very difficult to describe, since any description ... tends to place the experience at a reflective distance for our contemplation. And this distance is exactly what teaching (even in its best form as "thoughtful" or "thinkingly" acting) does not permit."

[15] According to Goldman (1986, 1), epistemology deals with knowledge, which is the property of individual minds. For this reason alone epistemology must be interested in the knowing mind.

everyday interactions. In all these situations, teachers' professional selves are intricately involved. In sum, the teachers' knowing mind seems to have at least three kinds of epistemological dimensions that function together. Due this many-sided conception of epistemological issues in teachers' knowing mind the concept of *epistemics* [16] is used in this study.

According to Fenstermacher (1994b, pp. 44-45), one way of warranting a knowledge claim in teachers' knowing mind is to offer 'good reasons' for doing something or believing something. The provision of reasons makes the the action sensible to those acting. Such reasoning may also show that an action is the "reasonable thing to do, the obvious thing to do, or the only thing to do under the circumstances" (Fenstermacher, 1994b, p. 45). In this way, the 'good reasons' approach integrates the knower and the known together with the specific context the reasoning concerns.

The 'good reasons' teachers provide to support their actions and beliefs often address the ethical and moral aspects of the teaching profession. According to Clark (1990, p. 252) it seems that the criterion mostly used for moral decisions is the teacher's personal preference. Sockett (1993, p. 13) emphasizes that many teachers have a moral vision, a moral sense, however mixed up it may be in any individual person, and this calls attention to the teachers' character. In the school context the teachers' character is of great importance due to the teacher's institutional and practical position[17]. Teachers' personal views of what are the characteristics of a good teacher (and how the teacher personally fits them), what is good teaching, and what kind of learning the teacher wants to promote in his/her students are largerly ethical by their nature. The crucial question is in what manner is the teacher performing his/her professional tasks of teaching and organizing students' studying. Teachers' professional tasks are related to the methods they use. In this way, according to Fenstermacher (1992, p. 101), methods the teacher uses and

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[16] Goldman (1986, 9) has presented the concept of epistemics due to his multidiciplinary conception of epistemology. According to him, epistemics is a suitable way of integrating widely shared interests of epistemology.

[17] Jackson (1968, 10) observed over two decades ago: "School is ... a place in which the division between the weak and the powerful is clearly drawn. ... Teachers are indeed more powerful than students, in the sense of having greater responsibility for giving shape to classroom events ..."

his/her personal manner occur together. Due to this many-sided conception of ethical issues in teachers' knowing mind the concept of *ethics* [18] is used in this study.

Discussion

The main issue which has been presented in this paper is an effort to summarize how teachers' knowledge can be described in a manner that at the same time pays attention to the issues of what teachers' knowledge is about, and how it is organized. The results of this study have been presented in the form of a rhetorical framework in teacher thinking named as "Teachers' Pedagogical Mind Set". In this discussion part, an attempt to explore some basic concepts used to describe the mind set will be made.

Why call the mind set *pedagogical* ? van Manen (1991) uses the concept of pedagogy in order to capture all the crucial elements of the interaction process between the teacher and students. The concept of pedagogy goes beyond teaching to encompass all kinds of encounters where a teacher can contribute to his/her students' upbringing. Defined this way, the pedagogical approach emphasizes the fact that teachers' knowledge is always related to his/her students. Additionally, it means that the pedagogical relationships between teachers and the students are not symmetrical. Teachers are mainly responsible for the pedagogical relationships which occur in schools. Therefore, it is important to study them. In sum, the concept of pedagogy indicates that teachers' knowing mind is related and contextual by its nature.

The mind set is entitled a *rhetoric* framework because it is based on teachers' reported views. These do not necessarily reflect their classroom reality, though they may present teachers' perspectives on certain professional issues. According to Packer & Winne (1995), a place or a setting can be seen in teacher thinking itself. The information the teacher thinks about is a joint function of 1) what is *in* the place of teaching, and 2) what the teacher is capable of perceiving *about* the place. The three frames are reconstructed in order to capture some general outlines from the information provided by the teachers.

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[18] The concept of ethics tries to integrate several ethical dimensions of teachers' knowledge.

The reconstructed *framework* is an attempt to describe teachers' knowledge. The framework is more visual than it is factual in the sense that the framework is not a teacher; it is a visual description of some features that may explain teachers' knowledge and some relations in it.

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